

2000 Missouri Nursery Survey

Issued Cooperatively by



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*Serving, promoting and protecting the agricultural producers, processors
and consumers of Missouri's food, fuel and fiber products.*

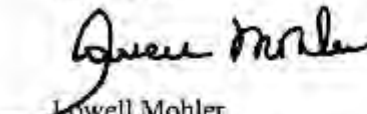
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It is my pleasure to present to you the Missouri Nursery Survey, our first attempt to assess the scope and impact of the state's nursery industry.

As the following pages outline in detail, the nursery industry is a vital component of the state's diverse horticulture industry and an important contributor to Missouri's agriculture economy. The state's nursery industry employed more than 9,000 people in 2000 and contributed approximately \$250 million in gross receipts to Missouri's economy.

We appreciate the support and assistance of the Missouri Agriculture Statistics Service, the Missouri Landscape and Nursery Association, the University of Missouri-Columbia, and the Missouri nursery growers and dealers who helped to make this publication possible.

Sincerely,


Lowell Mohler
Director of Agriculture

Summary

The estimated value of gross receipts of Missouri's nursery industry in 2000 was nearly \$250 million. The estimated value of all land, buildings, and equipment to the nursery industry totaled nearly \$243.9 million, nearly 98 percent of the gross receipts, averaging \$237,700 per operation.

Nursery gross receipts from wholesale and retail plant sales during 2000, were valued at \$162 million (two-thirds of the total) and were the largest receipts generating enterprises. Retail sales accounted for \$114 million. Receipts from landscape services, both installation and maintenance, accounted for \$70 million of the total.

The St. Louis region generated 42 percent of the total gross receipts while 29 percent of total gross receipts came from the Kansas City region with the remaining 29 percent coming from all other counties.

The total acreage of nursery operation in the state is estimated at nearly 8,150 acres with slightly more than 6,800 acres under production.

In 2000, 6,089,000 square feet of greenhouse, polyhouse, and other covered space were used for nursery production. More than 72 percent of this area consisted of film plastic greenhouses, hoop houses, and single or multilayer houses.

The nursery industry employed a workforce of nearly 9,000 people with a payroll of approximately \$75.8 million.

Gross receipts from sales of plant materials were nearly \$222.3 million. Nursery container stock was the largest cash receipt enterprise, accounting for \$76.0 million (34.2%). Receipts from balled and burlap sales were second at \$43.6 million (19.6%), while sales of herbaceous annuals accounted for \$40.5 million (18.2%).

Of the \$222.3 million of nursery products sold, plants grown entirely by Missouri operations accounted for \$91.6 million or 41.2 percent of the total value.

Nursery products shipped within the state were estimated to be 66.1 percent of total plant shipments. Central States accounted for nearly 14 percent of the total shipments.

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The data for the characteristics of the operations represents only the usable responses for each item of interest. There was no allowance made for those not responding to a specific question. Highlights are:

Sixty-two percent of all operations have access to the Internet.

Nearly 70 percent of the operations would use on-line registration with the Department of Agriculture, if available.

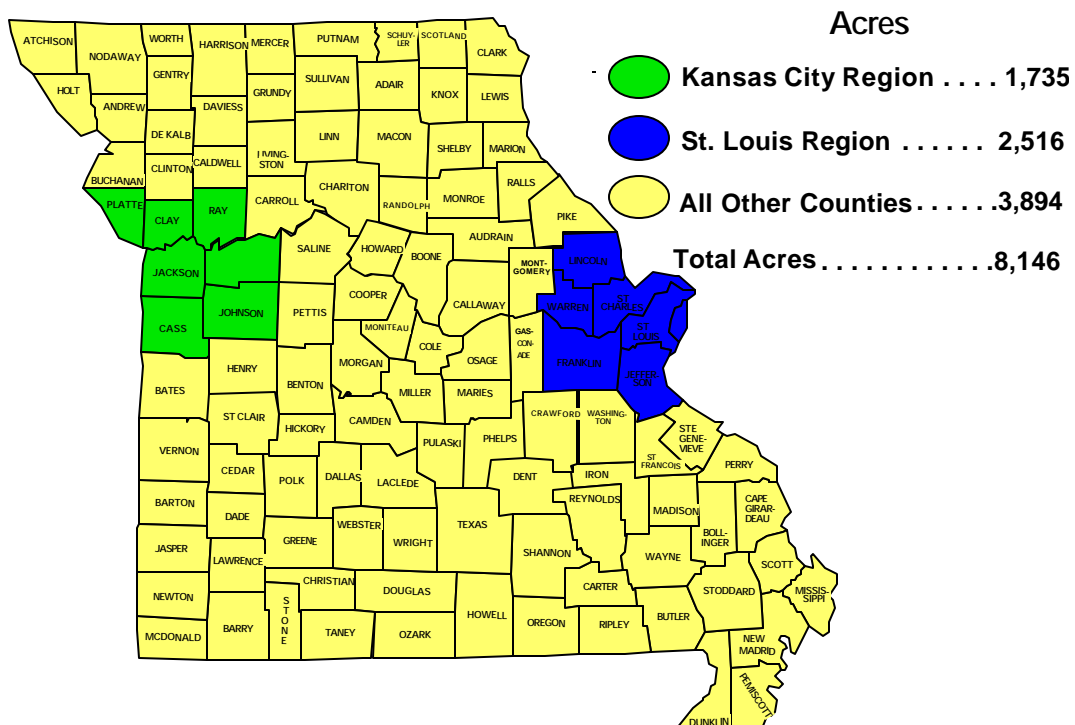
The number one use of the Internet was as a source of information.

Nearly 65 percent of all operations were not aware of the Japanese Beetle Harmonization Plan.

Nearly 23 percent of the operations are members of their local or state nursery association.

Nursery inspectors and magazines are the main sources of pest management information.

Acres of Production Area

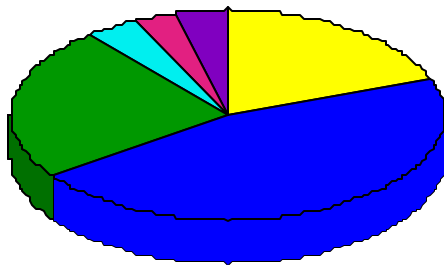


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Total Cash Receipts 2000

Item	(000)
Labor	\$6,743
Landscaping (maintenance)	\$10,738
Other	\$10,738
Wholesale Plant Sales	\$47,948
Landscaping (installation)	\$59,935
Retail Plant Sales	\$113,626
Total	\$249,728

Cash Receipts



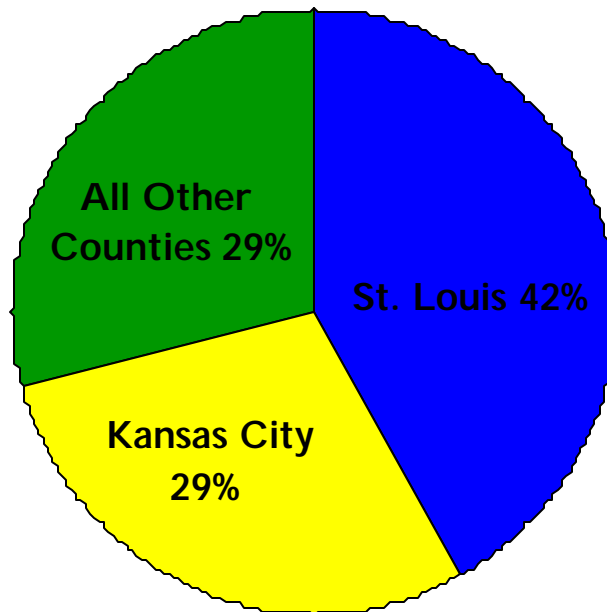
Wholesale Plant Sales	19%
Retail Plant Sales	46%
Landscaping (installation)	24%
Landscaping (maintenance)	4%
Labor	3%
Other	4%

Type of Plant Materials Sold and Cash Receipts 2000

Plant Material	(000)	Percent
Nursery Container	\$76,012	34.2
Balled and Burlap	\$43,562	19.6
Herbaceous Annuals	\$40,451	18.2
Herbaceous Perennials	\$33,116	14.9
Bare Root	\$19,781	8.9
Other Plant Material	\$9,335	4.2
Total	\$222,257	100

Cash Receipts by Region

Nearly half of all sales/receipts were identified as being in the St. Louis region (city of St. Louis and six surrounding counties) while the other half of the in state receipts were evenly distributed between the Kansas City region (seven counties surrounding Kansas City) and the rest of Missouri.



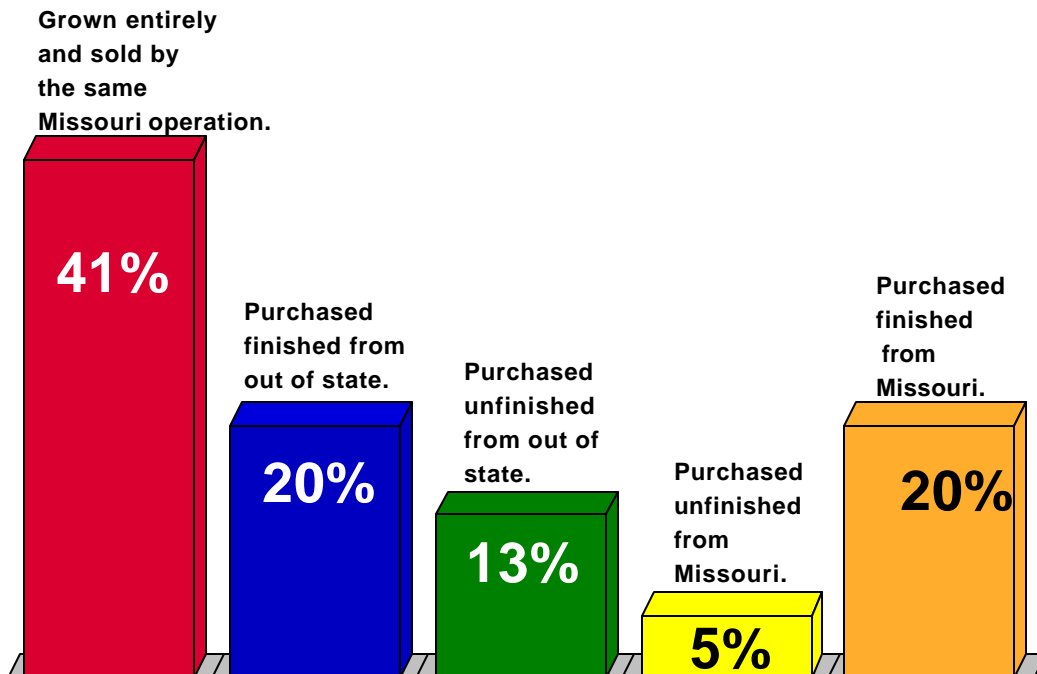
St. Louis Region (City of St. Louis, Franklin, Jefferson, Lincoln, St. Charles, St. Louis, and Warren counties.)

Kansas City Region (Cass, Clay, Jackson, Johnson, Lafayette, Platte, and Ray counties.)

Source of Plant Materials Sold and Cash Receipts 2000

Source of Plant Material	(000)
Purchased unfinished products from Missouri nursery	\$12,002
Purchased unfinished products from out of state nursery	\$29,782
Purchased finished products from Missouri nursery	\$43,562
Purchased finished products from out of state nursery	\$45,341
Grown entirely and sold by the same Missouri operation	\$91,570
Total	\$222,257

Value of Plants Sold; Percent by Source



Cash Receipts

The nursery industry established gross receipts at \$249.7 million in 2000. This is nearly equal to dairy products, about half of corn or hog cash receipts and about one-third of soybean values. As an industry, cash receipts represent about 5.5 percent of all commodity agriculture.

Nursery vs. Other Ag Commodities

Nursery Industry	\$249,727
Dairy	\$269,709
Corn	\$524,447
Hogs	\$591,170
Soybeans	\$755,042
Cattle	\$1,044,789
All Commodities	\$4,566,967

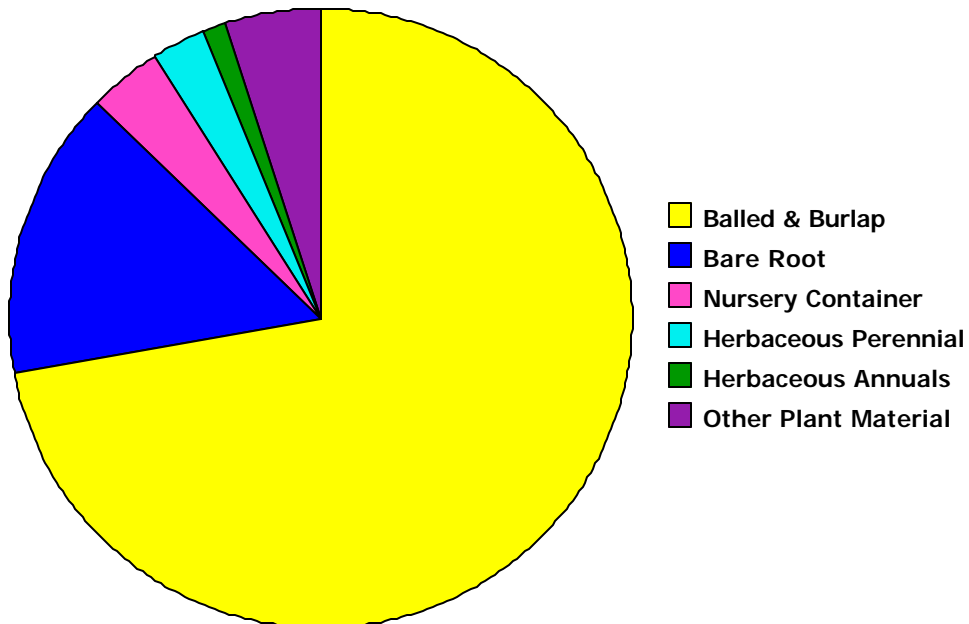
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Acreage Under Production by Plant Material

Plant Material	Acres	Percent
Balled & Burlap	4,960	72.2
Bare Root	1,039	15.1
Nursery Container	256	3.7
Herbaceous Perennial	189	2.8
Herbaceous Annuals	81	1.2
Other Plant Material	341	5.0
Total	6,866	100.0



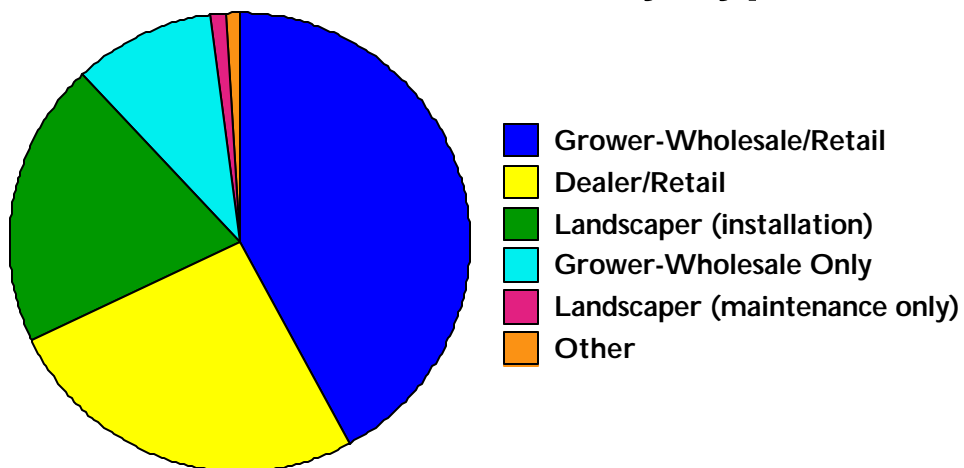
Total Covered Space

Type	Square Feet (000)
Film Plastic Greenhouse, etc	4,434
Rigid Plastic Greenhouse	398
Glass Greenhouse	591
Shade House	409
Other Types	257
Total	6,089

Nursery operations by primary type of business, Missouri, 2000

Type of Operation	Percent
Grower - Wholesale/Retail	42.0
Dealer/Retailer	26.0
Landscaper (installation)	20.0
Grower - Wholesale Only	10.0
Landscaper (maintenance only)	1.0
Other	1.0
Total	100.0

**Missouri Nursery Operations
Percent of Total by Type**



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Nursery Assets

The overall value of land, buildings, and equipment to the Missouri Nursery Industry totaled \$243.9 million, nearly 98 percent of annual cash receipts, averaging \$237,700 per operation. Cash receipts to assets ratio varied from 18 percent in the less than \$50,000 group to 228 percent for the more than \$1 million group.

Cash Receipts (CR)	Assets	Ratio CR/Assets
<i>million</i>		
<\$50k	\$26.6	18
\$50k - \$249k	\$76.8	61
\$250k - \$499k	\$45.2	81
\$500k - \$1mil	\$40.4	90
>\$1mil	\$54.9	228
Total	\$243.9	102

In comparison, the 1997 Census of Agriculture indicates the overall Missouri ratio of cash receipts to the value of land, buildings, machinery, and equipment for all of agriculture was approximately 15 percent.

Labor**Number of persons employed in the nursery industry and gross wages paid - 2000**

Sales Size Group	Part Time	Full Time	Total Employed	Total Wages	Average Wages per Employee
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>(000)</i>	<i>Dollars</i>
< \$50,000	943	295	1,238	\$3,882	\$3,136
\$50k - \$249k	1,664	713	2,377	\$12,407	\$5,220
\$250k - \$499k	692	458	1,150	\$12,804	\$11,134
\$500k - \$1mil	504	575	1,079	\$13,298	\$12,324
> \$ 1mil	1,542	1,559	3,101	\$33,370	\$10,761
Total	5,345	3,600	8,945	\$75,761	\$8,470

Labor Usage

Labor usage among the Missouri nursery growers and dealers varies dramatically. Survey data showed 41 percent of our smallest operations (less than \$50,000 cash receipts) reported hiring workers in their operations at the rate of slightly less than six workers; while nearly five of those were part-time employees. Conversely, the largest operations (\$1 million or more in receipts) reported hired labor at the rate of about ninety workers; with nearly an even split between full and part-time employees.

Nearly 30 percent of industry's cash receipts were returned to the employees within the industry in the form of salaries, totaling \$75.8 million.

Hired Labor

Sales Size Group	% Operators	Employees per Operation	Full Time	Part Time
<\$50k	41	6	1	5
\$50k-\$249k	83	19	6	13
\$250k-\$499k	100	29	11	18
\$500k-\$1mil	94	35	19	16
>\$1 mil	91	89	45	44

Shipping Destination and Value* by Category of Plant Material

Destination	Plant Categories and Values					Total ^{6/}	
	Bare Root	Balled & Burlap	Nursery Container	Herbaceous ^{1/}	Other Nursery	Value	Percent
Missouri	8,268	30,624	52,144	51,276	4,593	146,905	66.1
Eastern States ^{2/}	3,917	2,570	6,081	4,120	420	17,108	7.7
Southern States ^{3/}	2,235	4,269	3,877	3,752	895	15,029	6.8
Central States ^{4/}	4,114	4,705	8,057	11,844	2,007	30,727	13.8
Western States ^{5/}	1,207	1,394	5,777	2,428	653	11,459	5.2
Canada	20	0	76	0	0	96	0.0
Other Countries	20	0	0	147	765	932	0.4
Total	19,781	43,562	76,012	73,567	9,334	222,257	100.0
<div>1/ Herbaceous perennials and annuals.</div> <div>2/ Eastern States include CT, DE, MA, ME, MD, NJ, NH, NY, PA, RI, VA, VT, WV</div> <div>3/ Souther States include AL, AR, FL, GA, LA, MS, NC, OK, SC, TN, TX</div> <div>4/ Central States include IA, IL, IN, KS, KY, MI, MN, ND, NE, OH, SD, WI</div> <div>5/ Western States include AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, Ut, WA, WY</div> <div>6/ Total may not add due to rounding</div> <div>* All values listed in \$1,000 unit</div>							

Operations With Internet Access

Total Responses	Operations having access to the Internet	
	Yes	No
<i>Percent</i>		
429	62.0	38.0

On-Line Registration with the Department of Agriculture

Total Responses	Operations that would use on-line registration	
	Yes	No
<i>Percent</i>		
239	69.9	30.1

Internet Use by Category

Category	Percent
Information resources	49.2
Buying/Selling	10.5
E-mail	34.5
Other	5.8

**Awareness of the
Japanese Beetle Harmonization Plan**

Total Responses	Not Aware of Plan	Aware of Plan
	<i>Percent</i>	
415	64.8	35.2

**Membership in
Nursery Industry Associations**

Type of Association	Total Responses	Member	Non-Member
	<i>Number</i>	<i>Percent</i>	
Local	357	22.7	77.3
State	357	22.7	77.3
National	301	25.9	74.1

**Main Source of
Pest Management Information**

Source of Information	Percent
Nursery Inspector	42.6
Magazines	13.9
Extension Agent	12.5
Chemical Dealer	12.5
Growers or Producers	10.9
E-Info Service	0.2
Other	1.7
No Outside Source	5.7
Total Responses	423

Description and Methodology of the Survey

Survey Objective - The objective of the 2000 Missouri Nursery Industry Survey was to determine the contribution of the licensed nursery growers and dealers to the state's economy through sales of nursery and landscaping products.

Survey Design - The Missouri Nursery Survey was designed to collect data from licensed nursery growers and dealers using sample list survey methodology with complete follow-up of nonrespondents. Name and addresses of licensed nursery growers and dealers excluding "restricted" dealers were provided by the Missouri Department of Agriculture (MDA) and were used as a sampling frame. The list was checked to remove duplication. Only a few names were removed from the MDA list either due to duplication or because they were no longer associated with the nursery industry. This resulted in a final sample list of 1,043 licensed nursery growers and dealers.

The questionnaire was developed by the Missouri Agricultural Statistics Service with assistance from the Missouri Department of Agriculture and the nursery industry representatives. The survey was designed to collect information for the calendar year 2000 for the following items: type of operation, gross receipt from different types of plant material and source of plants sold, shipping destinations of all plant material areas used from production, other information such as total assets, location of the nursery operations by region, numbers of part-time and full-time workers paid by the operation, total gross wages paid and operation characteristics with respect to access to the Internet and usage, and primary sources of information on plant pest management.

Survey questionnaires were initially mailed to all respondents on December 28, 2000. After the second request mailing to nonrespondents on February 1, 2001, a follow-up postcard reminder was mailed three weeks later. A subsequent telephone reminder to nonrespondents followed between March 11 and March 25 in an effort to maximize returns. Data collection ceased on April 30, 2001.

Even though the survey had the general industry support, obtaining complete information and response from all individual operations was difficult and not realized. Of the 1,043 operations mailed a questionnaire, a total of 440 (42%) usable questionnaires were obtained. There were a total of 586 (56%) nonresponses and 17 reported that they were no longer associated with the nursery industry.

A systematic method of post stratification by size of the 1, 026 operations were used to put operations into one of the six size groups based on value of sales. The nonrespondents were then stratified based on knowledgeable input from the MDA Plant Industry Division. The statistical estimates presented in this report were based on the information provided by 440 respondents and were extrapolated statewide through the use of sample expansion factors. However, questions such as type of business operation, operation characteristics' data were based on useable reports to provide the results. All questionnaires were manually edited for completeness and reasonableness. In cases where the statistician had questions about reported data, responses were verified with the original respondent. Upon completion of the manual edit and data entry, a computer edit data check was performed for additional data checks. The errors identified by the edit program were reviewed and corrections made accordingly before the final summaries were performed.